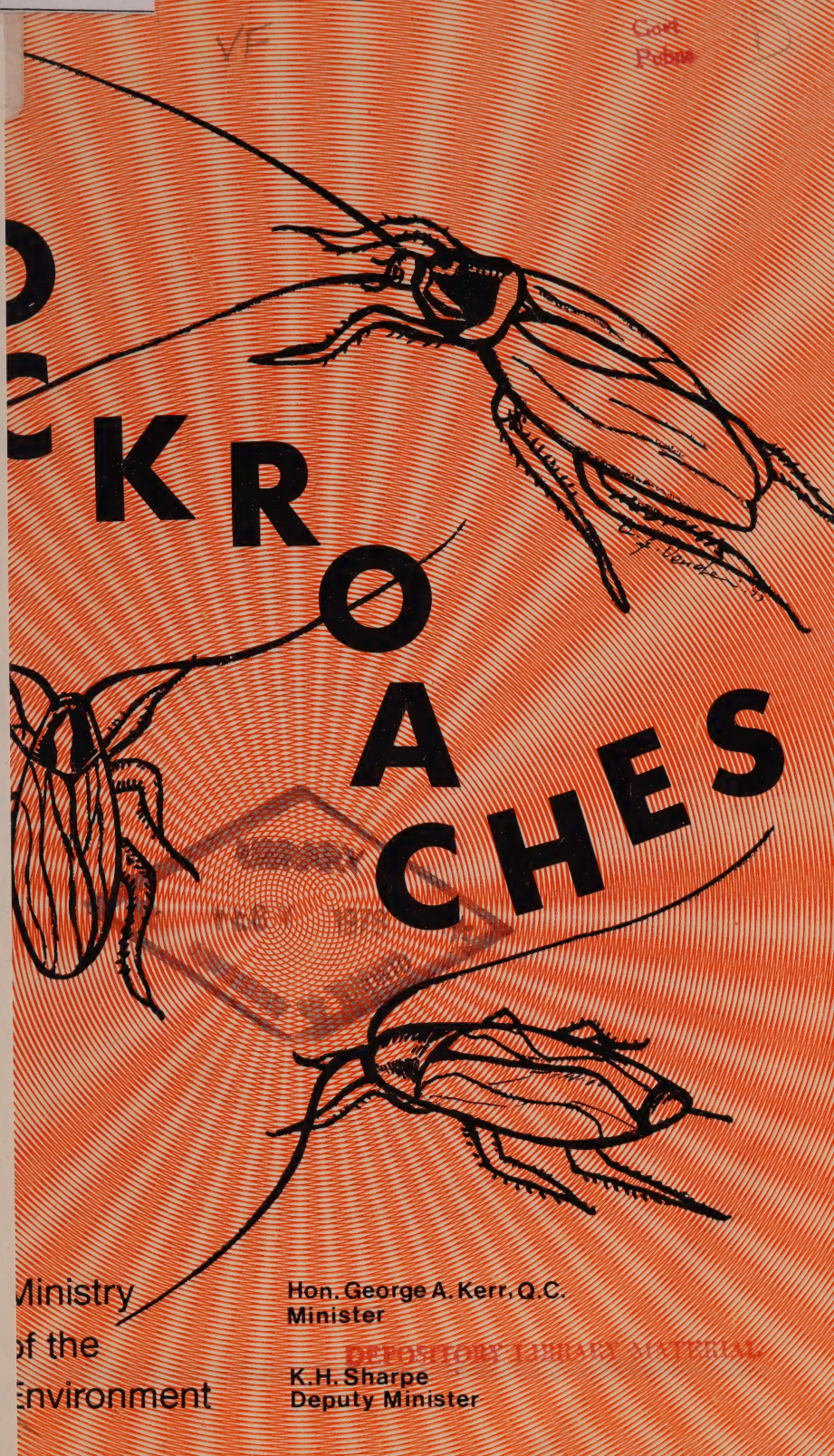


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Ministry
of the
Environment

Hon. George A. Kerr, Q.C.
Minister

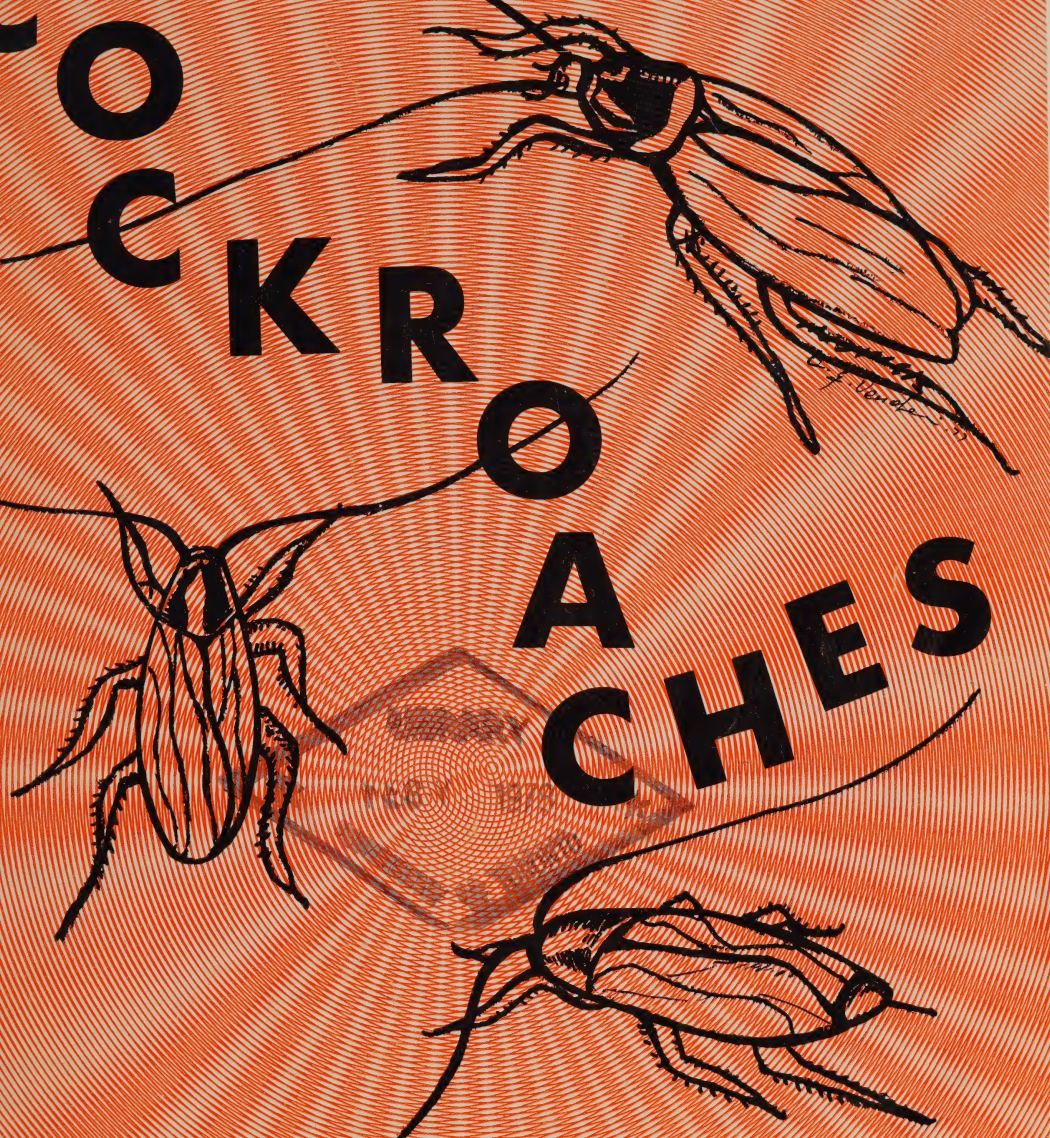
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Deputy Minister

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COCKROACHES



Ministry
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Ontario

COCKROACHES

Introduction

To the untrained eye, all cockroaches may look alike. However, there are actually five species of significance found in Ontario. German, Brown-banded, Oriental, American and Common Wood roaches are unwelcome pests in any home.

The main attractions for a cockroach are food and water. To them, food is almost anything — any foodstuff, paper, cloth, plants and even glue used for binding books.

They can be found in every part of the home but most prefer some kind of damp environment. Since cockroaches are active at night, many people may be completely unaware of this insect's presence in their home.

Roaches are considered a health hazard because they have been known to carry salmonella bacteria — the organism responsible for food poisoning.

Although some worry that admitting to an infestation of cockroaches indicates poor housekeeping, at times, even the most conscientious housekeeper will find it impossible to avoid an infestation.

IDENTIFICATION AND LIFE HISTORY

German Cockroach (*Blattella germanica*)

The German cockroach is probably the most widespread species in the world, having spread largely through the shipping of foods and other goods.

It is a small insect, 10 to 15 mm. in length and is yellowish-brown in color, with two distinctive dark parallel bands running the length of the pronotum (portion behind the head).

Eggs are laid in ootheca (egg cases) with an average of 37 eggs per case. The female drops it close to food, just before they hatch. She can produce up to seven of these cases in a lifetime. Under ideal conditions, incubation takes about 17 days and an adult can develop in six weeks.

The nymph (immature cockroach), moults or sheds its skin five to seven times before it reaches maturity. The life span of an adult is 125 to 150 days. In an average home, there can be two or three generations per year.

The German cockroach develops rapidly under unsanitary conditions, preferring a warm, moist environment. Consequently, it is frequently a pest in kitchens, food storage areas and bathrooms. It feeds on a wide variety of stored food products as well as scraps of food which may have fallen undetected.

Brown Banded Cockroach (*Supella supellectilium*)

The Brown-banded cockroach is similar in size to the German roach. The adult male is 13 to 14.5 mm long, while the female is 10 to 12 mm. The wings of the male completely cover the abdomen, but on the female the tip of the abdomen is exposed.

It is a brownish-buff color with the face and abdominal tip being chestnut brown to black. The lateral edges of the pronotum are transparent, the remainder is dark. The nymph and adult stages have two brown bands — one across the mesonotum and the other across the first abdominal segment. These bands, which are more noticeable on the nymph, are the main distinguishing feature between the German and Brown-banded.

The egg case holds approximately 16 eggs. It is small, reddish-brown in color and purse-shaped. The female glues it to a hidden surface. It takes about 40 days for the eggs to hatch and the insects go through six to eight moults before reaching maturity. The adult will live for up to 115 days and there may be two generations per year.

Although the Brown-banded roach is nocturnal, it may often be seen during the day. It is capable of flight and can be found fluttering around lights in the house. It may be found throughout infested premises, however, it prefers locations high up in heated rooms where the average temperature is 26° C. They prefer to hide in furniture, bedding, cupboards and behind picture frames.

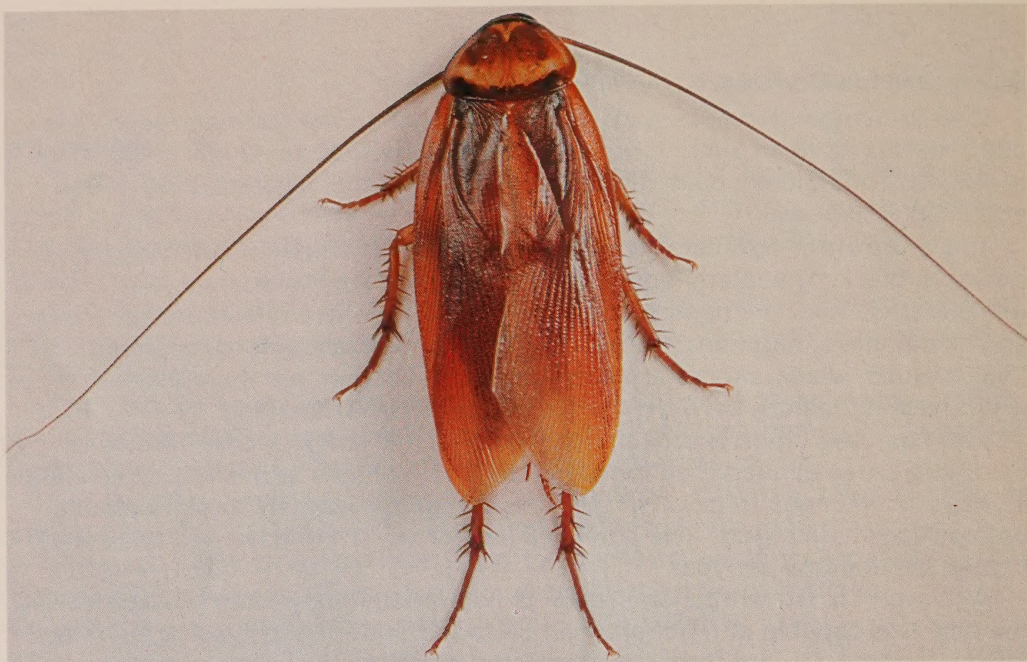
Since this roach wanders so widely in the home, it is necessary to treat areas in the livingroom, etc. Follow label directions carefully concerning insecticide use on chairs and chesterfields.

Oriental Cockroach (*Blatta orientalis*)

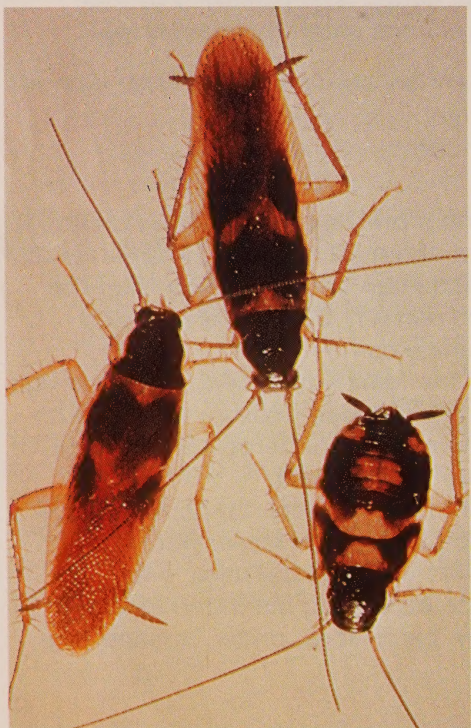
This species of cockroach is less wary and more sluggish than the others. It is very dark brown, almost black in color and about 25 mm long. The wings of the male cover about three-quarters of the abdomen and are darker than the abdomen. On the female, the wings are only partially developed and they appear almost wingless. Neither male nor female can fly.

There are 16 eggs in an egg capsule and the female may deposit an average of eight to 14 capsules in her lifetime. They are dropped indiscriminately after formation. The eggs hatch in 60 days and the nymphs undergo seven moults before reaching maturity. They can live for up to two years.

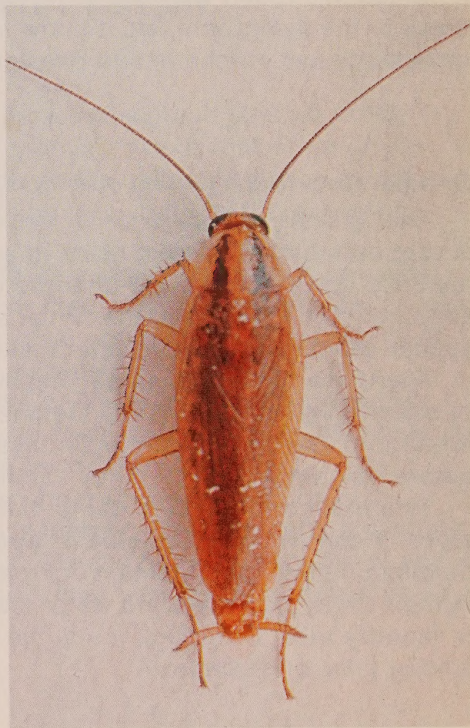
This roach prefers dark damp places such as basements, tunnels or sewer pipes. It can climb the outside of water pipes to reach the upper floors in buildings. Since the Oriental cockroach prefers to live in colonies, great numbers may occur around water leaks in the basement, behind toilets, baths or laundry tubs. Outdoors, it may be found in back lanes, under verandahs or among piles of garbage.



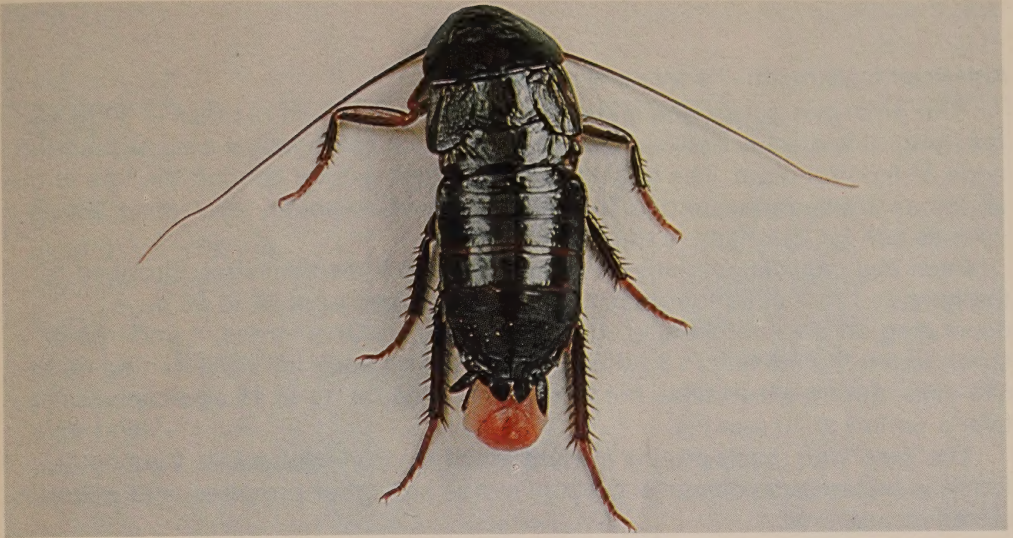
American cockroach (adult)



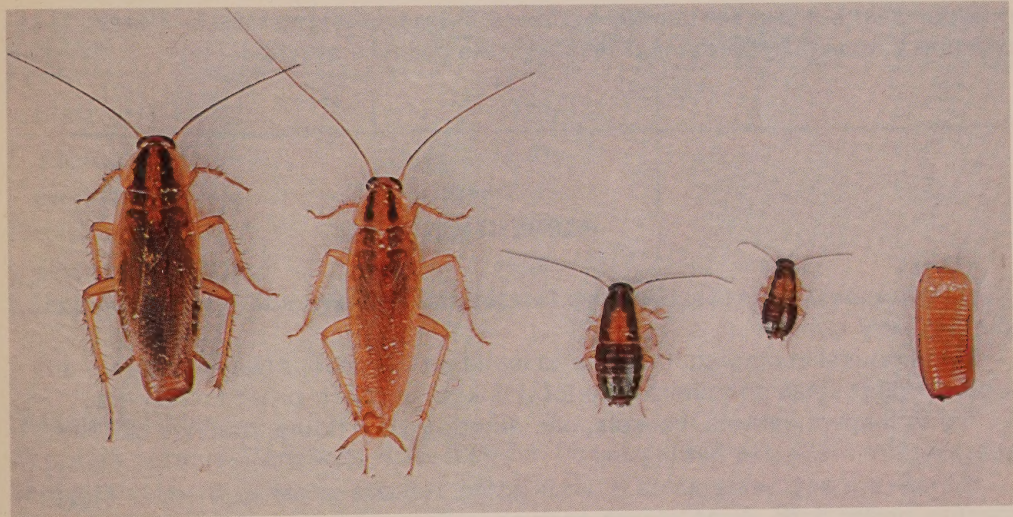
Brown-banded cockroaches
(2 adults and nymphs)



German cockroach (adult)



Oriental cockroach (female with egg case)



Life stages of a cockroach: egg case, 3 nymphs,

Actual Sizes	GERMAN _____
	BROWN-BANDED _____
	ORIENTAL _____
	AMERICAN _____

American Cockroach (*Periplaneta americana*)

The American cockroach is the largest of the common roaches — 30 to 45 mm long. It is a shiny reddish-brown color with a paler yellow area around the edge of the pronotum. The fully developed wings extend beyond the tips of the abdomen in the male, but only just overlap the abdomen of the female. This species can fly, but flight is rare and sluggish.

Each egg capsule contains 16 eggs which are indiscriminately dropped by the female. The incubation period of the egg ranges from 24 to 59 days, depending on the temperature. After the young roach emerges, it undergoes seven to ten moults before reaching maturity. The adult life span can be up to 588 days, during which time, the female can produce 10 to 15 egg capsules over a period of 10 months.

The American roach prefers a warm moist environment and is frequently found in restaurants, bakeries, grocery stores and other premises where food is stored or prepared.

Common Wood Cockroach (*Parcoblatta pennsylvanica*)

The Wood cockroach is chestnut brown in color. They are normally an outdoor pest but can sometimes be found in homes and cottages. If they become a nuisance, spray near or under the premise affected.

PREVENTION

Unfortunately, cockroaches have few natural enemies and if left alone can multiply very rapidly.

Good housekeeping should help to avoid an invasion. Always clean up any food or water spills and make sure food is kept in roach-proof containers.

Try to inspect cartons, baskets, etc. entering your home; roaches can find many different ways of getting in.

If there are any damp areas in your home, remove or repair them — most roaches prefer dark, damp places such as under a sink, or behind counters and dishwashers.

CHEMICAL CONTROL

To control cockroaches the following chemical sprays and dusts can be used:

SPRAYS

NAME	CONCENTRATION	REMARKS
diazinon	0.5%	Residual spray
dichlorvos (DDVP)	0.9%	Contact spray
fenthion (Baytex)	0.5%	Residual spray
malathion	2.0%	Residual spray
propoxur (Baygon)	1.0%	Residual spray
pyrethrins with piperonylbutoxide	several	Contact spray
ronnel (with synergised pyrethrins) (Korlan)	1.0 — 2.0%	Residual (use lower rate on German cockroach)

DUSTS

NAME	CONCENTRATION	REMARKS
boric acid	70.0%	
diazinon	2.0%	
propoxur (Baygon)	bait 2.0%	
rotenone	1.0%	
silica gel (Drione)	40.0%	

Using Pesticides

Although pesticides are hazardous they can be used effectively if handled properly and with care.

Here are a few application tips:

1. Remove food, cutlery, dishes or pet dishes before treating any area. After treatment of cupboards, cover shelves with shelf paper before replacing food or utensils.
2. Always follow the label. When applying, do not spray the entire surface area where you have seen roaches, instead, concentrate on cracks, crevices and spaces where they may hide.
3. Treat around window and door frames in basements, drain pipes or areas where water may leak. Also, treat around garbage storage areas.

(continued)

4. When applying pesticides to chesterfields and chairs, apply only to seams and under cushions.
 5. Aerosols containing pyrethrins can be used as a flushing agent to locate places where roaches are hiding.
 6. Oil-based sprays may dull waxed or varnished surfaces. Washing or waxing after the chemical becomes ineffective (about three weeks after application), will usually return a shine to these surfaces. Read precautions on the label.
 7. Read the label carefully before buying a pesticide and make sure the pest you are trying to control is listed on the label.
 8. Store pesticides in a locked container out of the reach of children and away from food and drink.
 9. Qualified exterminators licensed by the Ministry of the Environment can be called for professional help.
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For further information contact:
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135 St. Clair Avenue West
Suite 100
Toronto, Ontario M4V 1P5
Telephone: (416) 965-2401

